



## NEXT MEETING

Our intrepid aviator Brian, G3CVI returns to the rostrum for a further description of his "other" hobby. Although Brian will not be trailing his banner over Chelmsford, he has provided an explanation of his word invention:- "For my talk on Gliding I will develop the idea of the main meteorological systems and show how they contribute to radio propagation using my experiences in gliding to link the subjects together". Brian will include in his talk a few action shots and a demo or two

### GLIDMETADIO

to entertain you. The meeting will open at 7.30pm on Tuesday 6<sup>th</sup> September in the Marconi College, Arbour Lane, Chelmsford and we look forward to gathering in the customary friendly atmosphere.

## DATES FOR YOUR DIARY

- 4 Sept. Vange Amateur Radio Society Rally - Basildon.
- 6 Sept. CLUB MEETING - Gliding:2 - Brian, G3CVI.
- 11 Sept. BARTG Rally - Sandown Racecourse.
- 25 Sept. Harlow Amateur Radio & Computer Show.
- 4 Oct. C.A.R.S. ANNUAL GENERAL MEETING.
- 7/9 Oct. RSGB International HF & IOTA Convention.
- 21/22 Oct. Leicester Amateur Radio Show - Granby Halls.

## LAST MONTHS MEETING - Harry, G5HF

Founder member Louis Varney, G5RV served up a fascinating programme at our August Meeting, combining some technical titbits with traveller's tales resulting from his long career with Marconis and later with Preece Cardew Ryder. Louis was licensed to operate in no less than 55 countries worldwide.

It is commonly recognised that when using resonant feeders for an aerial, there are certain feeder lengths which must be avoided. Louis showed the results of recent tests he had made on full-size and half-size 5RV aeriels with varying feeder lengths on each amateur band. The tests measured VSWR and feeder current and showed that odd lengths are not necessarily bad, although he warned that checks should always be made at each frequency used.

The Conjugate Match was next explained. This theory says that with a mismatch of 3:1 at the aerial feed point, 25% of power is reflected back to the ASTU where it is re-reflected forward again to the aerial. This process continues until all the Tx output, minus that lost in the feeder, is used up and, furthermore, the re-reflected power returns to the aerial in phase with the forward power. Louis said he was not sure if this theory was correct, but he put it to the meeting as a basis for future discussion.

Aged 11, Louis joined the sea scouts and learned to send and receive Morse/Vail Code. He is still at it nearly three quarters of a Century later! In 1927 he got his first "Artificial Aerial" licence with the call 2ARV and at age 19 he joined Marconis in the Test Dept. and he obtained his full amateur licence G5RV in 1929.

He was appointed Assistant Head of Marconi College until he was head-hunted (not a phrase used at that time) for War work. At the end of the War "I was an old timer," said Louis.

His time with Marconis helped greatly in obtaining an amateur licence abroad, but even then he had some problems. For example, Uruguay insisted on a technical exam and a Morse test, but half way through the Morse test the examiner stopped him because he was sending faster than the examiner could read. Louis displayed some of the most cherished QSL cards, such as HS1PJ, the first phone contact with Siam and MX2B his first contact with China, both in 1936.

One of his many memorable occasions was when he boarded a ship in the Panama Canal with the pilot by climbing up a vertical ladder. Another was travelling by plane (the only way to travel) in Papua New Guinea to land alongside an almost completely naked family, a contrast of modern technology with primitive man.

Louis said that in all his many travels he had remarkably little trouble, which is more than can be said for today, when tourists are being warned of danger in Turkey and other places. By far the most important conclusion he had reached was that with no other hobby than Amateur Radio can you get such help and cooperation worldwide. "Wherever I went, I received lavish hospitality, help with getting a licence and even loan of equipment to set up a station."

One of Louis' pastimes was horse riding and he showed us a picture of him on his favourite horse in Uruguay. This horse was eventually killed by lightning ("A good thing I wasn't riding him at the time," said Louis) but on one occasion he took a 2M handheld with him on a ride and so claimed to be the first Horse Mobile!

## HINTS AND TIPS - Colin, G0TRM

When you contemplate winding P.A. or A.T.U. coils on a plastic former, the material should be checked first, because some plastics absorb R.F. and become so hot that they melt. An effective way to test the material is to place a sample in a microwave oven (with a cup of water as the main oven load) for two or three minutes. If the plastic warms up it is fair to say that the plastic is unsuitable. Warming may be more apparent if the sample is first cooled in the fridge.

## C.A.R.S. ANNUAL AWARD

At the October AGM our Society Award of Merit will be presented to a member who has made a substantial achievement in the field of Amateur Radio during the past year.

Nominations should be made in writing (not more than 100 words) and sent or given to a committee member.

Voting slips bearing the names of the nominees will be circulated during the AGM.

## HINTS AND TIPS - Colin, G0TRM

Discarded ballpoint pen cases make good stand-off insulators and p.c.b. mounting spacers. For insulators, average size cases will accept a 4mm thread internally. Cut your required length and tap into both ends; insert short lengths of 4mm studding (or cut down thread from screws) and hold each end in position with lock-nuts; alternatively use epoxy resin to fix studs. For spacers, short lengths of pen case will accept 3.5mm machine screws straight through.

## COMMITTEE MEETING

The next Committee meeting will be held at 7.30pm on Wednesday 14<sup>th</sup> September, in Telford Lodge, you are welcome to join us.

*This month we publish in full the submission prepared by our Secretary Charles, G2GJS. We expect some dialogue to result and will keep you informed in future Newsletters.*

## **Response by C.A.R.S. to D.T.I. Consultative Document "The Future Management of the Radio Spectrum"**

This response is primarily addressed by this Society from the viewpoint of Amateur Radio. However, the opportunity is taken to comment on a number of indirectly related aspects as requested by the DTI.

### **Performance and Role of the RA in Quality Spectrum Management**

"If it works don't fix it". This maxim, as applied to the RA, should be strictly adhered to and as the requirements of technology grow over the decades further legislation should be introduced to ensure that the RA carries out its vitally important roles in both the National interest and the United Kingdom's international obligations for quality spectrum management. Where necessary, higher licence charges should be levied on commercial users to ensure that the RA has adequate resources. The concept of "market forces will prevail" in spectrum management would permit unfair acquisition of frequencies by those organisations with the largest financial resources and would create monopolies which could ultimately erode the rights and privileges of individuals.

Accountability by the RA to government through Ministers should continue to be a high priority and frequent reviews of reporting practices and content should be undertaken. As required, the inputs from an independent advisory committee to the RA could be made, however, the RA should be equipped with its own high calibre expertise to enable it to carry out its required functions. It should continue to make itself available to respond to approaches from concerned individuals who, of course, in parallel also have the right of approach to government through parliamentary channels.

### **Access to RA Data Bases**

In the interests of both National and commercial security the minimum of information should be released consistent with the need that the management of the frequency spectrum is seen to be carried out equitably. Of particular interest is the information contained in the consultative document relating to the large allocation of spectrum to the military which in a climate of very stringent defence reductions and mounting commercial pressures for more frequencies, must raise questions of justification.

### **Spectrum Management Organisations (SMO)**

Whilst the statements contained in this response do not admit the possibility of SMOs, it is felt necessary to comment on such a proposal in one respect. The consultative document offers no assurance that such organisations could not appear from undesirable quarters viz., foreign governments and overseas companies, "entrepreneurial" East European business groups etc. It is worth recalling that in 1914 the American Marconi Company was terminated because the United States government was not prepared to have that country's communications in the hands of a foreign power, hence the origin of RCA!

### **Pricing**

As previously stated the concept of market forces determining the distribution of the frequency spectrum either by auction or inequitable levies imposed by SMOs, would bring about monopolies which could erode the rights and privileges of the individual citizen. Legislation, enforced by the RA, is the most equitable method of ensuring management of the frequency spectrum.

### **Amateur Radio**

The document recognises the necessity to safeguard the assigned spectrum for social purposes and we consider that this is best achieved through the administration of the RA.

The allocated amateur frequencies, both primary and secondary, in the band 1.8-30MHz are of course not limited to "line of sight" operation and are therefore subject to international use and the appropriate agreements. The RA therefore, must continue with its responsibilities in this area.

Amateurs have made significant investments in customised equipment covering the VHF, UHF and SHF bands - one member of this Society has five equipments which can be operated in the 70 centimetres band. We understand that commercial pressures are being generated which covet amateur bands in these areas on the grounds that channels are under utilised. We would refute these allegations on two counts,

- i) the difficulties faced by the critics in monitoring "line of sight" frequencies and
- ii) the extensive use of these channels when anomalous propagation conditions are present which then realises the amateur's fundamental value in experimenting with abnormal communication paths, particularly with amateurs overseas.

Finally, it should be remembered that Amateur Radio performs the following important national and international functions,

- 1) it provides a source of interest and expertise which encourages and supports careers in the Nation's electronics industry and services.

2) It operates and maintains national and international emergency communication services for disaster relief - viz., Mexican and Californian earthquakes, Lockerbie air crash, East Anglia floods, Balkan uprisings and civil wars, rescue of ocean going yachtsmen.

3) Amateur Radio provides a pool of telecommunications, computer and electronics expertise which can be quickly drawn upon in times of war.

4) The Amateur Radio fraternity is the World's largest R&D organisation (unpaid) and it contributes substantially to the many fields of communications viz., propagation, new modes of communication, HF SSB, meteor scatter, satellite communications etc.

In the United Kingdom the 60,000 licensed radio amateurs, with their families and friends represent a significant body of public opinion to which we are sure government will wish to continue to give due consideration.

## **HINTS AND TIPS - Colin, G0TRM**

### **ARE YOU INTERESTED IN PHOTOGRAPHY?**

#### **DO YOU USE 35mm FILM?**

If yes to both of these then maybe you will have a collection of empty 35mm film canisters awaiting further use. If you use any 1/4 inch coaxial cables externally, but not in constant use, then an empty canister can make a very neat temporary damp proof cover for most types of coax plug in amateur usage.

A suitable sized hole may be bored in either the top cap or the base of the canister (before fitting the connector) and slid onto the cable and the cap or body clipped into place. If the plug is already fitted then a radial slot cut in the lid to meet the hole will overcome that problem. A small rubber grommet sized to fit the cable and the hole will help keep out dampness. If using wire dipole with a centre connecting device which uses either a BNC or UHF connector, more permanent use can be made of the above method by fitting the lid carefully drilled, on to the connecting device connector and the canister body fitted on to the coax down lead.

## **RESTORING OLD EQUIPMENT - Geoff, G7KLV**

*Continued from last month.*


Hearing that Fred, G6FXM had a CR100, I eventually badgered him into parting with it. He warned me that it might need some loving care and attention! He was right. It was with some trepidation that I switched it on expecting a few fireworks from the electrolytic department. There was a faint rushing sound but not a lot else to be heard. One or two of the 0.1µF decouplers needed replacing and then there were signs of life. Prodding about in the set it was obvious that a rewiring job was necessary. These sets were built in the pre PVC days and were wired in something resembling the old 'cabyre'. For our younger readers one should explain that after 20 or 30 years the insulation on this type of wire became very brittle. It was OK until it was disturbed but then watch out! The receiver was completely rewired and I thought it would only need a quick line up to complete the job.

I started to check the RF and IF circuit alignment. Some of the cores were a bit stiff to adjust and gave no variation in tuning. It was found that the dust iron of the tuning cores had become detached from the brass stems of the adjusters. The cores run in close fitting resin bonded paper tubes. The cores had rusted slightly and were locked solid in the tubes. The brass adjuster stems were glued in to pieces of plastic attached to the cores and it was these pieces of plastic that became detached from the dust iron when the cores were adjusted.

There are some 24 RF coils in a CR100 and they all needed treatment. Each coil had to be dismantled and the core and plastic treated with instant glue. The treatment has been successful. All the windings were in good nick which bear testimony to the wax dipping process. The IF cores gave no trouble at all.

*The third part of this interesting column will follow next month.*

**73 from Roy & Ela Martyr,  
G3PMX & G6HKM**

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## **MEMBERS ADVERTISEMENTS**

**WANTED - Copy of handbook or circuit for Solartron D300 Oscilloscope. Expenses of course re-imbursed or donation to CARS.  
John Greenwood, G3KRZ, ☎ (0205)820583.**

**FOR SALE - P.K.W. 80 & 40M Vertical Antenna + Radial Kit, brand new and boxed, will work on 20, 15 & 10M. £80 o.n.o.  
Martin Final, G4TOO, QTHR, ☎ (0245)266728.**